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The Role of Multifamily Real Estate Investments in Retirement Planning

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THE ROLE OF MULTIFAMILY REAL ESTATE INVESTMENTS IN RETIREMENT PLANNING

by

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ABSTRACT

The Role of Multifamily Real Estate Investment in Retirement Planning

by

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By using data from the 1995 Property Owners and Managers Survey (POMS), this study explores the role of owner characteristics (socioeconomic and behavioral) and ownership characteristics in predicting the likelihood of using multifamily property for retirement purposes. In addition, this study examines the likelihood of reporting a profit in the prior year among those who purchase multifamily properties for retirement purposes. The sample consists of property owners who own multifamily real estate other than their primary residence ($N = 1,319$). Property owners with retirement savings motive (RSM) were more likely to be male, White, have income more than $100,000, own more than 30 units, and be located in the Midwest. Property owners who reported a profit in the prior year were more likely to be male, White, own property more than 10 years, own 30 or more units, and be located in the Midwest.

The results of logistic regression analysis indicate that gender, income, the amount of time contributed to maintenance by the owner, owner living at the property,

individual ownership, and the number of units in the property were significantly related to the likelihood of owning real estate for retirement purposes. Being older, White, having higher income, contributing to maintenance, being an individual owner, owning the property for more than 10 years, and owning more than five units were significantly related to the likelihood of reporting a profit in the prior year.

By identifying who is purchasing multifamily properties for retirement purposes and their likelihood of success, educators, researchers, financial planners, and economists can gain a better understanding of the multifamily housing market. Individual investors, financial planners, lenders, and researchers can utilize this information to expand, develop, or refine models that measure the quality of a financial deal (i.e., the probability of making a profit and/or risk of default).

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Miguel A. Fernandez

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CHAPTER I

INTRODUCTION

Investing for retirement has changed dramatically over the last 50 years. Social and economic forces have altered when, where, and how individuals retire. Individuals used to depend on Social Security, pensions, and individual investments to financially see them through retirement (DeVaney, 1995; Stanford & Usita, 2002). Unfortunately, individuals today are faced with the uncertainty of Social Security, loss of pension benefits, recent stock market losses, and the challenges of funding an increasing number of postretirement years (DeVaney; Glass & Kilpatrick, 1998a; Yuh, Montalto, & Hanna, 1998).

Social Security pays benefits to survivors, disabled persons, and those who are retired. Retirees can start collecting benefits upon reaching their full retirement age. The amount of their benefits is based upon their work history and when they retire. The earliest an individual can retire and start receiving Social Security is at age 62. If an individual retires prior to their full retirement age their benefits are reduced. Benefit payments are increased once a year according to the cost of living index (U.S. Social Security Administration, 2005a).

As baby boomers move into retirement, they will place tremendous pressure on the current Social Security program (DeVaney, 1995). It is projected that the current Social Security program will be unable to meet the increased demand of baby boomers and will start paying out more than it collects by the year 2038 (U.S. Social Security Administration, 2005a). In order to address this problem, various solutions have been proposed. Some measures call for the privatization of a portion of Social Security,

others for reduction in benefits, and still others for delaying when individuals can access benefits (DeVaney; Yuh et al., 1998). Whatever changes are enacted, individuals can expect to see more instability with regards to their Social Security benefits.

Pension benefits have changed drastically during the last 50 years. Companies have either dropped pension benefits completely or have moved from defined benefit pension plans to defined contribution plans (DeVaney; Yuh et al., 1998). Under defined benefit pensions, retirement benefits are based upon an individual's years of service and/or their salary. Under defined contribution plans, the worker and/or the employer deposit money into an account; upon retirement, the balance in the account belongs to the employee (U.S. Department of Labor, 2005). As employers have reduced or dropped pension benefits, employees have had to increase their financial contributions to their retirement accounts. The percentage of all contributions to pension plans made by employees has increased from 11% in 1978 to 47% in 1998. In real dollars, employer contributions to all types of pension plans were 18% lower in 1998 than in 1978, while employee contributions were 480% higher (Mackey, 2003). In an effort to decrease costs, more companies are expected to switch from 5212traditionally defined benefit plans to defined contribution plans. This change is expected to increase individual responsibility for retirement and increase instability in retirement by eliminating employer benefit payment guarantees. Retirees will be at the mercy of the financial markets and their investment decisions.

Improvements in medical care and nutrition, along with changes in lifestyles, have dramatically increased life expectancy (U.S. Center for Disease Control, 2005). Individuals today can expect to live longer and more active lives than past generations.

In 1900, average life expectancy at birth for both sexes was 47.6 years (U.S. Center for Disease Control). By 2002 the average life expectancy for both men and women had increased to 77.4 years (U.S. Center for Disease Control). Life expectancy has increased so much that individuals retiring at age 65 can expect to spend 17.5 years in retirement (U.S. Social Security Administration, 2005a).

The United States' economy has been in transition for the past five years. In 2000 the stock market bubble in the United States burst (AIM Investments, 2005). The Standard and Poor's Index dropped 41.3% from 2000 to February 2003 and the NASDAQ Composite dropped 65.3% during this same period (Economic Report of the President, 2006). The resulting economic down turn and outsourcing of white-collar and blue-collar jobs lead to a loss of thousands of jobs in various industries. In addition, corporate scandals in the energy, transportation, and communication industries wiped out employee benefits, jobs and wealth across the United States (American Family Voices, 2005). Subsequently, many workers are no longer sure whether they will be able to retire at all.

The impact of the economic turmoil has been heightened by the lack of savings in the United States. Many Americans are not savings enough for retirement (Glass & Kilpatrick, 1998a). Many financial experts today suggest that retirees will need between two-thirds and three-quarters of their pre-retirement income to maintain their current level of living during retirement (Mackey, 2003). Yet the National Retirement Planning Coalition (2002) found that prospective retirees typically underestimate the amount of money they will need to maintain their current lifestyle in retirement. Merrill Lynch & Co., Inc. (2005) found that baby boomers are only saving 33% of what they need to

maintain their current level of living. The Retirement Confidence Survey of 2004 found that 30% of 45-54-year olds have saved less than $25,000 (Employee Benefit Research Institute, 2004).

There is a need to understand the strategies individuals are using to address the changing landscape of retirement planning. How are individuals planning for their retirement? How successful are their strategies? In light of the social and economic challenges in the United States some are turning to real estate investment properties such as apartment buildings (multifamily properties) or rental properties as a means to make money and prepare themselves for retirement (Streitfeld, 2005). Unfortunately, research on this investment strategy is limited.

Why Multifamily Real Estate Investment Property?

Real estate is important because it can take on various forms; there is limited research on certain types of real estate; and the number of individuals who own real estate, other than a primary home, has increased. The term *real property* refers to land, buildings, and all appurtenances (Bowman & Milligan, 2000). Real estate can include (a) vacant land; (b) mobile homes; (c) single detached; (d) attached homes; (e) condos; (f) town homes; and (g) agricultural, recreational, commercial, industrial, and multifamily properties. This diversity allows individual investors to choose the property type that best fits their needs and resources. Unfortunately, it also makes the analysis of the factors that influence each property type difficult. For example, research on the purchase of multifamily properties for retirement purposes is limited because of its

complex nature and the absence of a centralized database (Jud, Benjamin, & Sirmans, 1996).

The number of individuals who own some form of real estate had increased drastically over the last fifty years (Colton, 2002). According to the 2001 Survey of Consumer Finances, 11.3% of survey participants reported either owning a second home, time share, one-to-four unit family rental properties, and other types of residential property in 2001 (Aizcorbe, Kennickell, & Moore, 2003). The percentage of individuals who owned nonresidential real estate such as commercial property, rental property with five or more units, farmland, undeveloped land, and all other types of nonresidential real estate reached 8.6% in 2001 (Aizcorbe et al.). According to Zeitz (2003), individual investors own two-thirds of the rental housing in the United States. Real estate's diversity, the lack of research on certain types of real estate properties, and the rise in the ownership of real estate investment properties such as two or more unit properties, require that additional research be undertaken to understand who is purchasing these properties and their likelihood of making a profit.

Definition of Multifamily Properties

The definition of multifamily property varies. The National Association of Homebuilders defines a multifamily property as any home consisting of two or more units. The United States Congress through its various housing guidelines identifies properties of 1-4 units as residential properties and five or more units as multifamily commercial properties (Zeitz, 2003). National standards utilize the government's definition and require that properties consisting of 5 or more units be financed with

commercial loans (Hodges, 2004). These commercial loans have less favorable terms and conditions than residential loans (Hodges). In this study, multifamily properties were defined as properties that consist of two or more units.

Objectives of the Study

Research on the ownership of multifamily properties and the likelihood of reporting a profit from investing in multifamily properties is limited. This study seeks to address this limitation by examining the factors that influence the ownership of multifamily properties for retirement purposes and the likelihood of reporting a profit. As such this study has two main objectives:

1. To create a profile of individual investors who are likely to purchase multifamily properties as part of their investment plan to fund their retirement.
2. To identify the factors that influence the likelihood of reporting a profit among individual investors who purchased multifamily properties for retirement purposes.

Importance of the Study

A growing number of individuals are turning to real estate as a means to accumulate wealth and fund their retirement (Streitfeld, 2005). Unfortunately, research on the use of multifamily real estate investment property to fund retirement is limited. Most of the research on the ownership of real estate investment properties and retirement has focused on asset diversification and wealth accumulation (Aizcorbe et al., 2003; Gyourko & Linneman, 1990; Luckett, 2001). There is a need to understand

who is purchasing multifamily properties to fund their retirement and their likelihood of reporting a profit.

This study is important because it seeks to expand researchers' and policymakers' understanding on who is likely to purchase multifamily properties for retirement purposes and the likelihood of these investors reporting a profit. Such an investment strategy can have both positive and negative consequences. While those who successfully invest in multifamily properties may be able to reach their retirement goals; those who fail to adequately gauge the factors that may influence their likelihood of success may find themselves in financial turmoil and unable to meet their retirement goals. By identifying who is purchasing multifamily properties for retirement purposes and their likelihood of success, educators, researchers, financial planners, and economists can gain a better understanding of the multifamily market. Individual investors, financial planners, lenders and researchers can utilize this information to expand, develop, or refine models that measure the quality of a financial deal (i.e., the probability of making a profit and/or risk of default). Finally, this study is important because it builds upon previous research by including all properties that are two or more units in size and reclassifying respondents based upon their motives for purchasing their property(s).

CHAPTER II

LITERATURE REVIEW

The first section in the literature review establishes the importance of real estate by discussing the dramatic rise in the ownership of real estate (primary homes, other residential properties, and nonresidential properties) over the last fifty years and identifying some of the possible reasons why households may purchase multifamily properties. The second section provides an overview of studies that have examined the interplay between real estate and retirement planning. The third section discusses the research that has been conducted on multifamily properties. The fourth and final section discusses possible socioeconomic influences on real estate ownership.

The Rise in Real Estate Ownership

During the last 50 years, real estate in its various forms has become an important component in the financial portfolios of American households. During the 1920s, less than 50% of Americans were homeowners (Jud et al., 1996). By 2003, over 69% of Americans owed a home (U.S. Census Bureau, 2004). The rate of ownership of other residential and nonresidential real estate property types has also increased over the last 50 years. According to Projector, Thoresen, Strader, Byrnes, and Seltzer (1964), an average of 17% of those between the ages of 35-64 owned some form of real estate or business other than their primary home in 1964. By 1992, this number had increased to 26.6% (Kennickell & Starr-McCluer, 1994). According to the 2001 Survey of Consumer Finances, 11.3% of families reported either owning a second home, time

share, one-to-four unit multifamily rental property, and/or other types of residential property (Aizcorbe et al., 2003). In 2001, the percentage of individuals who owned nonresidential real estate such as commercial property, rental property with five or more units, farm land, undeveloped land, and all other types of nonresidential real estate reached 8.6% (Aizcorbe et al.). Orzechowski and Sepielli (2003) in a study of net worth and asset ownership of households found that 4.9% of households owned rental property and another 6.6% owned some other form of real estate. Whether through the purchase of a home or the purchase of other real estate types, Americans are increasingly including real estate in their financial portfolios (National Association of Realtors, 2005).

The dramatic rise in the ownership of multifamily properties is not surprising considering that multifamily properties are unlike other investments. Multifamily properties benefit from (a) a more fluid; (b) diversified and counter-cyclical demand base; (c) more responsive supply; (d) stable capital flows; (e) smaller investment size; (f) lower transaction costs; and (g) more favorable outlook due to demographic trends than other income producing property types (Anderson, McLemore, Conner, & Liang, 2003; Winter, 2005). Furthermore, real estate is unlike many other investments vehicles in that it can be leveraged (Gyourko & Linneman, 1990). By financing the purchase, households can limit their direct capital investment while taking advantage of any appreciation based upon the sales price (Rosen, 1996). This characteristic can substantially influence an investment's rate of return. Finally, properties that are owner-occupied provide both housing services and function as an investment vehicle.

Real Estate Investment and Retirement Planning

American households hold the majority of their wealth for retirement in their primary home, second home, stocks, bonds, cash, vehicles, retirement accounts, pensions, and social security benefits (Glass & Kilpatrick, 1998b). These assets are often grouped into three categories: Social Security, pensions, and saving and investments, and are referred to as the "three-legged stool" of retirement (Stanford & Usita, 2002). Americans rely on these assets to support them through their retirement years (Stanford & Usita). Luckett (2001) used the 1995 Survey of Income and Program Participation to examine the median wealth of households. Luckett found that rental property comprised six percent of the sample's wealth while other real estate accounted for four percent of the sample's wealth. The principle residence comprised the largest percentage of the sample's wealth at 44%. All the real estate combined comprised 54% of the sample's wealth (Luckett).

Gyourko and Linneman (1990), in a study on the risk of income-producing real estate, noted that real estate comprised 25% of U.S. wealth. Aizcorbe et al. (2003) used the 1998 and 2001 Survey of Consumer Finances to identify recent changes in family finances and found that 11.3% of households owned some form of residential real estate in addition to a primary residence. The National Association of Realtors (2005), in an analysis of the real estate market, found an increase in the ownership of real estate other than a primary home. According to the National Association of Realtors, 23% of the homes purchased in 2004 were for investment. The typical owner had a median age of 47 and earned $85,700. Of all survey respondents in the National Association of

Realtors survey, 30% reported purchasing the investment property as a second home to diversify their investments.

Shroder (2001) used the Health and Retirement Survey (HRS) to examine the relationship between real estate investment decisions and the proportion of wealth invested in real estate. He operationalized real estate investment property as real estate other than the respondent's primary residence or second (vacation) home. Shroder found that there was a curvilinear relationship between wealth and ownership of real estate. In addition, he found that human capital (educational level) was negatively associated with ownership of real estate.

Ioannides (1989) used the 1983 Survey of Consumer Finances to examine the relationship between housing, other real estate, and wealth portfolios. She found that the percentage of total wealth held in real estate other than principal residence increases as the household's wealth increases. In addition, she found that the total percentage of wealth held in real estate amounted to 42.2%; the principal's residence alone accounted for 27.3% of total wealth.

Anderson et al. (2003) examined the portfolio implications of investing in apartments by analyzing the cross-correlation between returns for apartments, offices, retail and industrial properties. Support was found for the advantages attributed to multifamily investments. In particular, multifamily properties were found to benefit from relatively low space market volatility; higher risk adjusted returns; a more predictable and diversified demand base; responsiveness to supply; stable flow of capital; and less susceptibility to cyclical variations.

Investments in Multifamily Real Estate

Research on the use of multifamily real estate for retirement purposes is limited. Research on multifamily properties has been hindered because these properties trade infrequently and because of the absence of a centralized database (Jud et al., 1996). Despite the challenges, some research on multifamily properties has been conducted.

Zeitz (2003) conducted a meta-analysis of multifamily real estate research dating back to the 1970s. The meta-analysis found that research primarily focused on the micro and macro factors affecting the supply and demand of apartment buildings, vacancy rates, rents, review of research and research needs, and the impact of government intervention. Zeitz concluded that demographic and economic trends significantly impact the demand and supply of multifamily properties. This meta-analysis did not identify any research that has examined the use of multifamily real estate properties for retirement purposes.

Jud et al. (1996) also conducted an analysis of multifamily real estate research but grouped their findings according to themes in the research. They found that the research focused on demand and supply; vacancy rates and market equilibrium; rent control; demographic determinants of apartment demand; apartment and business cycles; hedonic analysis of apartment rents; other influences on rents; and investment returns. Jud et al. concluded that there is a positive linear relationship between a community's household income level and rental rates; college enrollment and rental rates; and the size, age, and growth rate of the U.S. population and rental rates. Their

examination of multifamily research did not find any studies on the use of multifamily real estate for retirement purposes.

Bogdan and Ling (1998) used the 1995 Property Owners and Managers Survey (POMS) to examine the effects of property owner, location, and tenant characteristics on multifamily profitability. The study focused on these variables because lenders use them in evaluating the expected profitability of multifamily assets. Gross rents (gross rents as the total rent receipts for the previous years) and net operating income (NOI) (total gross rental income minus operating expenses for a year) were used as measures of profitability. They found that properties located outside a metropolitan statistical area (MSA) had lower gross rents. As a property's age increased, so did its gross rents to value ratio but not its NOI. The gross rents ratio decreased as the number of units in a property increased. The form of ownership had no statistical effect on the gross rents. However, with respect to a property's NOI, partnerships and nonprofits had significantly lower rent ratios than those owned by individuals.

Bogdon and Follain (1996) used the 1991 Residential Finance Survey and the American Housing Survey to examine the interplay between neighborhood characteristics and the rent to value ratio for different types of multifamily properties. They focused their analysis on properties in which the land and the building were purchased at the same time, located in metropolitan statistical areas (MSAs), had five or more units, were directly owned, and had not experienced major changes in usage or renovation. The majority of the multifamily properties were found to be primarily located in central cities of MSAs. In addition, the majority of the multifamily properties were found to be concentrated in the Northeast and Western regions of the country.

California, New York, Florida, and Texas accounted for 41% of the multifamily properties and 42% of multifamily units.

Bogdon and Follain (1996) reported that properties containing 5-9 units comprised 55.3% of properties but only 14% of the units. The majority of the units (three-fifths) were in large properties consisting of 50 or more units. Properties in nonmetropolitan areas were smaller and were more likely to consist of 2-4 units. Half of the properties had the same owner for 10 or more years. Individual investors owned two-thirds of properties. Partnerships owned 17.6% of properties. When evaluated based upon total units, partnerships own the majority of units (42.3%). The West had the lowest average and median rent-to-value while the South had the highest rent-to-value ratios. Properties owned by partnerships or corporations had higher rent-to-value ratios and average net operating income (NOI)-to-value ratios than other ownership types. Bogdan and Follain also found that while smaller properties had lower rent-to-value ratios and NOI-to-value ratios than larger properties, properties held for a longer time had higher rent-to-value ratios and NOI-to-value ratios.

Rosen (1996) examined the fundamentals and investment demand for rental apartments in the 1990s and found that the demand for rental apartments is driven by demographics trends, the most important of which is the growth of that segment of the population that is between the ages of 18-24. In addition, as homeownership becomes more affordable through wage increases or lower interest rates, the demand for apartments decreases. The demand for apartments was found to be influenced by the loss of housing due to demolitions, conversions and catastrophic events, as well.

Savage (1998) conducted a descriptive analysis of the 1995 Property Owners and Managers Survey (POMS) and found that small properties and medium size properties were mostly owned by individual owners and partnerships. Most of the owners in the study were White (85%) and older; half the individuals and partners in the study were between 45 and 64 years of age. Most owners did not live at the property and about half spent at least one day a week doing maintenance or management. The primary reason why the owners acquired multifamily property was for income from rents. In addition, found that the majority of the properties either made a profit (58%) or broke even (27%). Small-and medium-sized properties (58%) were more likely to be profitable than larger properties (51%).

Galster, Tatian, and Wilson (1999) used the 1991 Residential Finance Survey (RFS) to examine whether the use of loan-to-value (LTV) ratios, debt coverage ratio (DCR), rent-to-value (RTV), net operating income to value (NOITV), and vacancy loss ratios (VLR) mattered in evaluating the financial condition of a multifamily property. They found that while the RTV and NOITV were highly correlated to each other, LTV and VLR were not. They concluded that no single indicator should be used to assess the financial condition of the nation's multifamily rental housing stock.

Possible Socioeconomic Influences on Real Estate Ownership

Socioeconomic and Behavioral Characteristics of Real Estate Owners

Age. While no study has examined the effect of age on the likelihood of using real estate investment property to fund retirement, some studies have found that the

likelihood of owning real estate investment property increases with age (Luckett, 2001). Ioannides (1989) found that owners of real estate investment property were older. According to Savage (1998), over half of the multifamily properties in the POMS were owned by individuals between ages of 45 and 65. Aizcorbe et al. (2003) explored recent changes in U.S. family finances and found that as respondent's age increased, so did the likelihood of reporting ownership of real estate other than a primary home. However, Aizcorbe et al. also noted that the likelihood of reporting ownership peaked at age 55-64 and then decreased with each successive age category. The National Association of Realtors (2005) found that the typical purchaser of real estate for investment purposes in 2004 had a median age of 47.

Gender. There is a lack of research on gender differences in the ownership of multifamily properties for retirement purposes. As such this study utilizes peripheral research on gender differences in wealth and investment behavior to establish potential differences in multifamily real estate investment behavior. Studies examining differences between women and men have found significant differences in wealth. Lee and Hong (2002) examined differences in wealth and income between nonmarried older women and men aged 65 and older, and found that older women had significantly less total income than nonmarried older men. Nonmarried older women also had fewer dollars of investment income, lower dollar amounts of net worth, and lower illiquid financial assets, all else being equal, than did nonmarried older men.

Race. Using data from the Health and Retirement Survey (HRS), Shroder (2001) examined the relationship between real estate investment decisions and the proportion of wealth invested in real estate. He found that individuals who are White are more

likely to own real estate investment property than non-white. Savage's (1998) descriptive analysis of the 1995 Property Owners and Managers Survey (POMS) found that most of the owners in the study were White (85%).

Income. As with age, no study has directly examined the relationship between income and the likelihood of using real estate investment property for retirement purposes. However, several studies have found an association between income level and the likelihood of owning real estate investment property. Aizcorbe et al. (2003) found that as income increased, holdings of real estate increased. In addition, Ioannides (1989) also found that owners of other real estate had substantially higher incomes than did nonowners. This finding is supported by Luckett (2001) in a study of likelihood of real estate ownership and the percentage of real estate holdings. In addition, the National Association of Realtors (2005) found that the typical purchaser of real estate for investment purposes in 2004 had an income of $85,700.

Time spent on maintenance. Bogdan and Ling (1998) found that properties that were exclusively managed by owners were less profitable than those that were professionally managed. Properties that were exclusively managed by the owner had statistically significant lower ratio of gross rent-to-value compared to those what were professionally managed. Savage (1998) found that half of the owners in the study spent at least one day a week doing maintenance or management.

Ownership and Property Characteristics

Ownership type. Bogdan and Ling (1998) found that ownership form (partnership, corporation, etc.) was positively statistically significant in predicting

profitability (using the ratio of gross rent to value). However, when compared to respondent's answer to whether the property made a profit last year, no statistical significance was found. Savage (1998) found that small properties and medium size properties were mostly owned by individual owners and partnerships rather than corporations, real estate investment trusts, or other types of ownership.

Length of ownership. Bogdan and Ling (1998) found that length of ownership was positively and marginally significantly related to the likelihood of reporting a profit. Bogdon and Follain (1996) found that 50% of the properties in their sample had the same owner for 10 or more years.

Number of units owned. Bogdan and Ling (1998) examined the effects of property owner, location, and tenant characteristics on multifamily profitability and found that smaller properties were less profitable than larger properties. Savage (1998) however found that smaller properties and medium size properties were more likely to be profitable than larger properties.

Residence. Savage's (1998) descriptive analysis of the 1995 Property Owners and Managers Survey (POMS) indicated that most owners in the study did not live at the property.

Location. Bogdan and Ling (1998) found that those properties that are in the Northeast/Central City, Midwest/Central City, Southwest/Central City were statistically more likely to report a profit compared to West/Suburbs when measured using the gross rent to value ratio (the ratio of all income divided by the total value of the property). These regions, except for Midwest/Central City, were also more likely to report a profit compared to Western/Suburb properties when evaluated based upon the properties' ratio

of net operating income (NOI) to value (net operating income is the gross income minus all expenses in a year). Using the Residential Finance Survey, Bogdan and Follain (1996) found that properties in the South had the highest rent to value ratios when compared to the Northeast, West, and Midwest.

While some researchers have attempted to summarize multifamily research by conducting a meta-analysis, others have sought to examine the influence of specific factors. Research on several factors has obtained relatively consistent results. Being White, male, having higher income level, owning for longer periods of time, being an individual owner, and not living at the property have been found to increase the likelihood of owning multifamily real estate. Unfortunately, research on the age of the owner, size of the property and location has not been as consistent. Additional research on the influence of these factors is needed.

CHAPTER III

METHODOLOGY

Data and Sample

This study employed data from the 1995 Property Owners and Managers Survey (POMS). The POMS was conducted between November 1995 and June 1996. It was intended to learn more about the multifamily housing market in the United States. Unlike the Survey of Consumer Finances and the American Housing Survey which examine certain specific aspects of the multifamily housing, the POMS examines the influence of both owner and property characteristics on using multifamily properties (Federal Reserve Board, 2003; Savage, 1998; U.S. Census Bureau, 2005). Its examination of both types of characteristics provides a great opportunity to examine the interplay between the both owner and property characteristics and their impact on using multifamily properties. In addition, though it is close to ten years old, it was employed in this study because it is the most recent study to examine the role of owner and property characteristics on using multifamily properties.

The sample in the POMS was derived from a nationwide sample of 16,300 housing units, which were rented or vacant for rent in the 1993 American Housing Survey National Sample (AHS-N) (U.S. Census Bureau, 2004). If two or more units were part of the same property, one was randomly chosen for inclusion in the study. Questionnaires were sent to the owners, managers, or other agents of these properties. Respondents were asked to provide information on themselves, the property, and the tenants.

The stratified random sample in the POMS consisted only of privately owned properties that were located in the counties and independent cities in the 438 sampling areas used the 1993 American Housing Survey (AHS-N) National Sample. Several types of units were not included in the sample. Units that were either (a) public housing, (b) military housing, (c) conversion properties, (d) vacant for sale, (e) vacant not for sale, (f) owner occupied, (g) primarily second home, or (h) rentals at the time of the 1993 AHS-N, but were no longer rentals at the time of the POM were not included (U.S. Census Bureau, 2004). The exclusion of these units limits the generalizability of the findings but allows for more direct comparison of those units that were included.

Of all the questionnaires only those that were completed by the property owners were analyzed. This resulted in a sample of 2,080 property owners. Furthermore, observations for which there were missing values for one or more of the variables were dropped. After excluding those with missing values the final sample consisted of 1,319 multifamily investment property owners who responded to all the questions.

Variables

Dependent Variables

The dependent variables of this study are retirement savings motive (RSM) and profit from the property in the prior year. The measurements of variables included in the multivariate analysis are presented in Table 1. Retirement savings motive (RSM) was measured by the response to the question: "What was the most important reason for purchasing?"

Table 1

Measurement of Variables

Variable	Measurement
Dependent variables	
Retirement savings motive (RSM)	1 if have retirement saving motive, 0 if otherwise
Profit	1 if have profit from property, 0 if otherwise
Socioeconomic and behavioral characteristics of owners	
Age	Owners' age
Gender:	Sex of owner
Male	1 if male, 0 if otherwise
Female	1 if female, 0 if otherwise
Race:	
White	1 if White, 0 if otherwise
Non-White	1 if Non-White, 0 if otherwise
Income level:	Annual household income, range 1: less than $30,000, 2: $30,000 - $49,999, 3: $50,000 - $74,999, 4: $75,000 - $99,999, and 5: more than $100,000

(table continues)

Variable	Measurement
Time spent on maintenance	Percentage of owner's time spent on maintenance range: 1: less than 25%, 2: 25% - 49%, 3: 50% - 74%, 4: 75% - 99%, and 5: spent 100% of owner's time
Residence:	
Live at property	1 if live at property, 0 if otherwise
Not live at property	1 if not live at property, 0 if otherwise
Ownership/property characteristics	
Ownership type:	
Individual	1 if individuals own, 0 if otherwise
Cooperates	1 if cooperates own, 0 if otherwise
Length of ownership:	
Short	1 if own less than 10 yrs, 0 if otherwise
Long	1 if own 11^{+} years, 0 if otherwise
Number of units owned:	
2-4 units	1 if own 2 – 4 units, 0 if otherwise
5-10 units	1 if own 5 – 10 units, 0 if otherwise
11-29 units	1 if own 11 – 29 units, 0 if otherwise
30+ units	1 if own 30 +units, 0 if otherwise

(table continues)

Variable	Measurement
Location of property:	
Northeast	1 if property located in northeast region, 0 if otherwise
West	1 if property located in west region, 0 if otherwise
Midwest	1 if property located in Midwest region, 0 if otherwise
South	1 if property located in south region, 0 if otherwise

Respondents who reported they purchased the property for income from rent, for long-term capital gains, for retirement security, and for bequest motives were deemed to have a RSM and were coded "1." On the other hand, respondents who reported they purchased the property for the following reasons: provide affordable housing, convert from residential to nonresidential, convert from nonresidential to residential, as a tax shelter, or for some other reason(s) were deemed to have no RSM and coded 0.

The likelihood of reporting a profit was determined from the question, "Did you make a profit last year?" Respondents who reported a profit last year were coded "1." Respondents who reported they did not make a profit or "break even" were labeled as no-profit and coded "0."

Independent Variables

The two categories of independent variables included socioeconomic and

behavioral characteristics of property owners and ownership/property characteristics. The socioeconomic/behavioral characteristics consisted of (a) age; (b) gender; (c) race; (d) income level of property owner; (e) time spent on maintenance or management; (f) whether or not the individual(s) were/are living at their property. Ownership/ property characteristics consisted of (a) property ownership type (individual or cooperative); (b) length of ownership; (c) number of units owned by the owners; and (d) the location of property.

Age was a continuous variable and was measured by the response to the question, "age of owner?" The gender of the respondents was measured by the response to the question, "sex of owner?" Response was coded as "0" for female and "1" for male. The reference group was female. The race of the owner was measured by the response to the question, "race of owner?" Individuals who reported that they were White were coded as "1" and "0" for others. The others group included Black, Asian or Pacific Island, and others. The reference group was White. Income was measured by the response to the question, "owner's total gross income?" Respondents who reported total gross income as less than $30,000 were coded as "1"; $30,000-49,999 as "2"; $50,000-$74,999 as "3"; $75,000-$99,999 as "4"; and $100,000 or more "5." The reference group was those property owners who made less than $30,000 per year.

Owner's time spent on maintenance or management was measured by the response to the question, "percentage of owner's time spent on maintenance or management of all rental property?" Respondents who reported they spent 100% were coded as "1"; 75 to 99% as "2"; 50 to 74% as "3"; 25 to 49% as "4"; less than 25% as "5." Whether or not the respondent lived at the property was measured by the response

to the question, "Does owner live at property?" Respondents who answered "no" were coded as "0"; respondents who answered "yes" were coded as "1."

The type of owner was measured by the response to the question, "type of owner?" Respondents who answered individual investor, including husband/wife ownership were coded as "1." Respondents were coded "0" if they reported (a) limited partnership, (b) general partnership; (c) joint venture; (d) real estate investment trust; (e) life insurance company; (f) financial institution other than a real estate corporation; (g) housing cooperative organization; (h) nonprofit or church related institution; (i) fraternal organization; (j) or other kind of institution. Individual investor was the reference group.

Length of ownership was measured by the response to the question, "How long has the owner owned rental property?" Respondents who reported they owned rental property for more than 10 years were coded "1"; those who reported they owned rental property for less than 10 years were coded "0." Those who reported less than 10 years were the reference group.

The number of units owned by the owner was measured by the response to the question, "total number of units owned by owner?" Number of units owned included four categories: 2-4 units; 5-10 units; 11-29 units; and more than 30 units. Respondents who reported 2-4 units were the reference group. Finally, location of property (the Northeast, the West, the Midwest, and the South) was dummy categorical variables. Properties in the South were the reference group.

Analysis Procedure

Preliminary analyses included frequencies, cross tabulations, and correlations for all of the variables. Pearson Product Moment Correlations show whether there were problems with multicollinearity. Multicollinearity refers to the degree to which the independent variables correlate to one another. The Pearson product-moment correlation helps identify potential problems with multicollinearity by testing the relation between two variables measured on another (Edwards, 1976). In an ideal regression equation the independent variable would be highly correlated with the dependent variable but not with other independent variables (Farrar & Glaudar, 1967).

To generate descriptive statistics for the sample, the mean, median, and standard deviation of age, income, and time spent on maintenance scores were calculated. A frequency analysis provided descriptive information on the categorical variables: gender, race, ownership type, length of ownership, and number of units owned.

To examine differences in explanatory variables between those with a RSM and those without a RSM, *t* tests were performed for continuous variables and *chi-square* tests were conducted for categorical variables. *t* tests examine the difference in the mean of two continuous variables to see if they are statistically different (Trochim, 2005). Chi-square compares observed results and expected results in categorical variables to determine if there is statistical significance (Connor-Linton, 2003). In this study, to profile socioeconomic characteristics, behavioral characteristics, ownership, and other characteristics between those with a profit and those without a profit, *t* tests were

performed for continuous variables and *chi-square* tests were conducted for categorical variables.

A fully adjusted multivariate logit model was employed to investigate the impact of socioeconomic, behavioral, and ownership characteristic variables on the likelihood of having a RSM and the likelihood of reporting a profit. A common procedure used when the dependent variable is binominal or categorical is logistic regression (Pampel, 2000). The principal advantage of this specification is that it allows a comprehensive evaluation of the entire set of variables.

It should be noted that in the case of categorical variables, namely number of units owned, group differences were assessed according to a chosen reference group. Thus, the likelihood of a relative difference between a given category and the referent category was compared. SAS software, version 8.2, was used to estimate all models.

Hypotheses

Based upon the literature review, it appears that the likelihood of using real estate investment property to fund retirement and the likelihood of reporting a profit or loss may be influenced by demographic and behavioral variables of property owners. Each of these variables addresses various aspects of investing in real estate and helps explain who, why, and how of real estate. Table 2 outlines the hypothesized directional effect of various factors on the likelihood of using multifamily real estate for retirement purposes and the likelihood of reporting a profit.

Likelihood of Retirement Savings Motive (RSM)

Age. Based on previous studies (Aizcorbe et al., 2003; Ioannides, 1989; Luckett, 2001; Savage, 1998), it is hypothesized that as an individual approaches middle age, their likelihood of reporting a RSM would increase. As individuals age past mid-life, they would be less likely of report a RSM. Age squared is used to test for curvilinear relationships.

Gender. Based on peripheral research on gender differences in investment behavior (Lee & Hong, 2002), it is hypothesized that compared to females, males would be more likely to report a RSM.

Race. Based on a previous study (Savage, 1998), it is hypothesized that compared to non-White, individuals who are White will be more likely to report having a RSM.

Income. Based on previous studies (Aizcorbe et al., 2003; Ioannides, 1989; Luckett, 2001), it is hypothesized that the likelihood of reporting a RSM will increase as income level increases.

Time spent on maintenance. Based on previous studies (Savage, 1998; Bogdan & Ling, 1998), it is hypothesized that as the time spent on maintenance and management increases the likelihood of reporting a RSM will increase.

Residence. Based on a previous study (Savage, 1998), it is hypothesized that compared to those who do not live at the property, those who do live at the property would be more likely to report a RSM.

Table 2

Hypothesized Direction of Effect of Selected Variables on Retirement Savings Motive and Profit from Real Estate Investments

Variable	Hypothesized effects: Retirement savings motive	Hypothesized effects: Profit from property
Socioeconomic and behavioral characteristics of owners		
Age	(+)	(+)
Age squared	(-)	(-)
Gender:		
Male	(+)	(+)
(Female)		
Race:		
White	(+)	(+)
(Non-White)		
Income	(+)	(+)
Time spent on maintenance	(+)	(-)
Residence:		
Live at the property	(+)	(+)
(Not live at the property)		
Ownership/property characteristics		
Ownership type:		
Individual	(+)	(+)
(Cooperates)		

(table continues)

Variables	Hypothesized effects: Retirement savings motive	Hypothesized effects: Profit from property
Length of ownership		
Long	(+)	(+)
(Short)		
Number of units owned:		
5-10 units	(-)	(+)
11-29	(-)	(+)
30+	(-)	(+)
(2-4 units)		
Location:		
Northeast	(-)	(-)
West	(-)	(-)
Midwest	(-)	(-)
(South)		

Ownership type. Based on previous studies (Bogdan & Ling, 1998; Savage, 1998), it is hypothesized that compared to other type of ownership forms, individual owners will be more likely to report a RSM.

Length of ownership. Based on a previous study (Bogdan & Ling, 1998), it is hypothesized that compared to those who have owned rental property for less than ten years (a short time), those who have owned rental property for 10 or more years (a long time) are more likely to own the property for retirement purposes.

Number of units. Based on a previous study (Bogdan & Ling, 1998), it is hypothesized that compared to those who own 2-4 unit properties, those who own more 5+ units will be more likely to report a RSM.

Location. Based on a previous study (Bogdan & Follain, 1996), it is hypothesized that since owners in the South have the highest rent to value ratios, compared to owners with properties located in the South, owners of properties located in the West, Northeast, and Midwest will be less likely to have a RSM.

Likelihood of Reporting a Profit

Age. Previous studies have found that age is positively related to the likelihood of owning multifamily real estate (Luckett, 2001; NAR, 2005; Savage, 1998). It is hypothesized that individuals who are older may be more likely to report a profit than younger individuals because they have access to more financial and human resources. These resources may assist older individuals in obtaining better loan terms that allow them to realize a profit.

Gender. Based on peripheral research on gender differences in investment behavior (Lee & Hong, 2002), compared to females, males will be more likely to report a profit.

Race. Based on previous studies (Shroder, 2001), it is hypothesized that compared to non-White, individuals who are White are more likely to report a profit.

Income. Based on previous studies (Aizcorbe, et al., 2003; Ioannides, 1989; Luckett, 2001), it is hypothesized that as income level increases, the likelihood of reporting a profit would increase.

Time spent on maintenance. Based on previous studies (Bogdan & Ling, 1998; Savage, 1998), it is hypothesized that as the amount of time spent on maintenance and management increase the likelihood of reporting a profit will decrease.

Residence. Based on a previous study (Savage, 1998), it is hypothesizes compared to those not living at the property(s), those who live at the property will be more likely to report a profit.

Ownership type. Based on previous studies (Bogdan & Ling, 1998; Savage, 1998), it is hypothesized that individual owner will be less likely to report a profit compared to other types of ownership forms (partnerships, corporations, etc.).

Length of ownership. Based on previous studies (Bogdon & Follain, 1996; Bogdan & Ling, 1998), it is hypothesized that compared to those who have owned rental property for less than ten years (a short time), those who have owned rental property for ten or more years (a long time) are more likely to report a profit.

Number of units. Based on a previous study (Bogdan & Ling, 1998), it is hypothesized that compared to owners of properties that are 2-4 units in size, owners who own properties larger than four units are more likely to report a profit.

Location. Based on a previous studies (Bogdan & Follain 1996; Bogdan & Ling, 1998), it is hypothesized that compared to properties located in the South, owners of properties located in the West, Northeast, and Midwest will be less likely to report a profit.

CHAPTER IV

RESULTS

Descriptive Statistics for Multifamily Investment Property Owners

The result of the descriptive statistics for multifamily property owners can be found in Table 3. The total sample consisted of 1,319 property owners. Of the total property owners, 67.2% (886) reported that they purchased multifamily investment property to fund retirement. The median age of those who reported a RSM (54.2 years) was only slightly higher than all multifamily property owners (54 years). However, both groups were much older than the mean age (35.4 years) of the entire U.S. population in 1995 (U.S. Census Bureau). While males accounted for close to half (48.9%) of the general U.S. population in 1995, they accounted for majority of all the multifamily property owners (77.1%) and the majority of those who reported a RSM (81.9%) (U.S. Census Bureau). Females made up over half of the U.S. population in 1995 but only 22.9% of multifamily property owners and 18.1% of those with a RSM (U.S. Census Bureau, 2001).

The majority of all the multifamily property owners were White (86.4%). Among those who reported a RSM, 88.8% were White and 11.2% were non-White. The distribution of non-White was in sharp contrast to their general distribution in the United States. While Non-White comprised 26.4% of the U.S. population in 1995, they only accounted for 13.1% of all multifamily property owners in the study (U.S. Census Bureau, 2001). It is important to note that in due to data limitations, which are discussed

in more detail in the limitations section, inferences to possible differences in ownership among the genders are limited.

Table 3

Descriptive Statistics for Multifamily Investment Property Owners

Variable	All multifamily property owners ($N = 1,319$)		Owners with retirement savings motive ($n = 886$)	
		%		%
Socioeconomic and behavioral characteristics of owners				
Age	54.2[a]	12.7[b]	54.0[a]	12.2[b]
Gender:				
Male		77.1		81.9
Female		22.9		18.1
Race:				
White		86.4		88.8
Non-White		13.1		11.2
Income level:				
less than $30,000		20.4		13.6
$30,000 - $49,999		21.8		20.9
$50,000 - $74,999		19.3		20.3
$75,000 - $99,999		13.0		14.7

(table continues)

Variable	All multifamily property owners (N = 1,319)	Owners with retirement savings motive (n = 886)
	%	%
More than $100,000	25.5	30.5
Time spent on maintenance:		
Less than 25%	51.3	44.9
25% - 49%	15.0	15.8
50% - 74%	7.7	9.6
75% - 99%	6.7	8.3
100%	19.3	21.4
Residence:		
Live at the property	19	6.9
Not live at the property	81	93.1
Ownership/property characteristics		
Ownership type:		
Individual	88.1	87.9
Cooperates	11.9	12.1
Length of ownership:		
Less than 10 yrs	27.5	25.8
11+ yrs	72.5	74.2

(table continues)

Variable	All multifamily property owners (N = 1,319)	Owners with retirement savings motive (n = 886)
	%	%
Number of units owned:		
2-4 units	37.0	21.3
5-10 units	19.2	22.1
11-29 units	18.3	24.5
30+ units	25.5	32.1
Location of property:		
Northeast	30.4	23.8
West	29.5	30.9
Midwest	22.0	24.9
South	18.1	20.4

Note. For continuous variables [a] mean and [b]standard deviation are provided.

There were differences in income between all the multifamily property owners and those who reported a RSM. Those who reported a RSM were concentrated in the higher income brackets as opposed to all multifamily property owners. Among all multifamily property owners, 20.4% reported earning less than $30,000 compared to 13.6% of those who reported a RSM. Among all multifamily property owners, 21.8% reported earnings between $30,000 and $49,999, compared to 20.9% of those who reported a RSM. Of those who reported a RSM, 20.3% reported an income of $50,000-

$74,000 compared to 19.3% of all multifamily property owners. While 13.0% of all multifamily property owners earned $75,000-$99,999, 14.7% of those with a RSM reported earning $75,000-$99,999. Close to one third (30.5%) of those with a RSM earned more than $100,000 compared to only 25.5% of all multifamily property owners.

Those who reported a RSM reported spending more time on maintenance and management than all multifamily property owners. Among all multifamily property owners, 51.3% reported spending less than 25% of their time on maintenance; 15.0% reported spending 25-49%; 7.7% reported 50%-74%; 6.7% reported 75-99%; and 19.3% reported 100% of their time. Of those with a RSM, 44.9% reported spending less than 25%; 15.8% reported 25-49%; 9.6% reported 50-74%; 8.3% reported 75-99%; and 21.4% reported 100%.

The majority of both all multifamily property owners and those with a RSM did not live at the property. Of all multifamily property owners, only 19% lived on the property and the remaining 81% did not. Of those with a RSM, only 6.9% lived on the on the property and 93.1% did not.

Most of the property owners were individual owners. Of all multifamily property owners, 88.1% were individual owners, whereas among those who reported a RSM, 87.9% were individual owners. Cooperatives represented only 11.9% of all multifamily property owners and 12.1% of those with a RSM. These results reflect the findings of Savage (1998) who noted that the majority of multifamily property owners in the POMS did not live at the property.

There does not appear to be a large difference in the length of ownership among all multifamily property owners and those who reported a RSM. Among all multifamily

property owners, 27.5% indicated owning the property for 10 or fewer years and 72.5% reported owning it for 11 or more years. Of those who reported a RSM, 25.8% reported owning the property for less than 10 years and 74.2% reported owning it for 11 or more years.

Multifamily property owners who purchased a property for retirement purposes appear to prefer larger properties. While 37.0% of all multifamily property owners reported owning 2-4 unit properties, only 21.3% of those with a RSM reported owning 2-4 units. Of all multifamily property owners, 19.2% reported owing a property with 5-10 units compared to 22.1% of those with a RSM. Among all multifamily property owners, 18.3% reported owning a property between 11-29 units in size, while 24.5% of those with a RSM reported owning a property between 11-29 units. Close to one-third (32.1%) of those with a RSM reported owning 30 or more units, while only 25.5% of all multifamily property reported owning 30 or more units.

Table 3 indicated that the sample properties were concentrated in the Northeast and West regions of the country. Of the all multifamily property owners, 30.4% were located in the Northeast; 29.5% West; 22.0% Midwest; and 18.1% South. Ownership of properties across all regions was more evenly distributed among those with a RSM. Among those with a RSM, 30.9% reported owning a property in the West; 23.8% Northeast; 24.9% Midwest; and 20.4% South.

Reasons for Purchasing Real Estate Property

Descriptive analysis of the categories that comprised the RSM found that income from rent was the primary reason why individuals with a RSM purchased the

property. Table 4 provides the percent of respondents in each subcategory. Of those who reported a RSM, 35.3% reported purchasing the property for the income from rents; 17.7% for retirement; 12.6% for long-term gains; 4.5% for bequest motive; and 32.8% for other reasons. The other reasons category was comprised of (a) creation of affordable, (b) residence, (c) housing, (d) conversion, and (d) tax shelter reason.

Table 4

Reasons for Purchasing Multifamily Real Estate Among Multifamily Property Owners

Categories	%
Retirement savings motive = sum of (rental income, long-term capital gains, retirement security, and bequest motives)	67.2%
Rental income	35.3%
Long-term capital gains	12.6%
Retirement security	14.7%
Bequest motives	4.5%
Other reasons = sum of (residence, affordable housing, convert, and tax shelter)	32.8%
Total	100.0%

Profile of Property Owners With and Without a Retirement Savings Motive (RSM)

In this study, *t* tests and cross-tabulations were performed to determine differences in socioeconomic and behavioral characteristics of owners, ownership/property characteristics between multifamily property owners with and without a RSM. Table 5 indicated that the differences in gender, race, annual household income, time spent on maintenance, residence, length of ownership, number of units owned, and location of property were statistically significant between multifamily property owners with a RSM and those with other motives.

Table 5

Profile of Property Owners With and Without a Retirement Savings Motive

Variables	Retirement savings motive (n = 886)		Other motive (n = 433)		Test statistic
	n	%	N	%	
Socioeconomic and behavioral characteristics of owners					
Age	54.1[a]	12.2[b]	54.5	13.7[b]	t = -0.45
Gender:					
Male	725	81.8	292	67.4	$\chi^2 = 34.125^{***}$
Female	161	18.2	141	32.6	
Race:					
White	785	88.9	354	82.5	$\chi^2 = 10.279^{***}$

(table continues)

Variables	Retirement savings motive (n = 886)		Other motive (n = 433)		Test statistic
	n	%	N	%	
Non-White	98	11.1	75	17.5	
Income level:					
Less than $30,000	121	13.7	148	34.2	
$30,000 - $49,999	186	21.0	101	23.3	
$50,000 - $79,999	179	20.2	75	17.3	$\chi^2 = 93.635^{***}$
$75,000 - $99,999	129	14.5	43	9.9	
More than $100,000	271	30.6	66	15.2	
Time on maintenance:					
Less than 25%	398	44.9	278	64.2	
Time 25% - 49%	140	15.8	58	13.4	$\chi^2 = 50.565^{**}$
Time 50% - 74%	85	9.6	16	3.7	
Time 75% - 99%	73	8.2	16	3.7	
Time 100%	190	21.5	65	15.0	
Residence:					
Live at the property	59	6.9	185	44.5	$\chi^2 = 257.677^{***}$
Not live at the property	802	93.1	230	55.4	

(table continues)

Variables	Retirement savings motive (n = 886)		Other motive (n = 433)		Test statistic
	n	%	n	%	
Ownership/ property characteristics					
Ownership type:					
Individual	779	87.9	383	88.5	
Cooperates	107	12.1	50	11.5	$\chi^2 = 0.077$
Length of ownership:					
Short (less than 10 yrs)	228	25.7	134	30.9	
Long (11^+ yrs)	658	74.3	299	69.1	$\chi^2 = 3.969^{***}$
Number of units owned:					
2-4 units	169	21.2	277	68.1	
5-10 units	179	22.5	52	12.8	$\chi^2 = 259.383^{***}$
11-29 units	194	24.3	26	6.4	
30+ units	255	32.0	52	12.8	
Location of property:					
Northeast	274	30.9	115	26.5	
Midwest	211	23.8	190	43.9	
West	219	24.7	171	16.4	$\chi^2 = 58.294^{***}$
South	182	20.5	57	13.2	

Note. For continuous variables [a] mean, [b] standard deviation are provided, and a t-test was conducted; for dichotomous variables [c] row and [d] column proportions are provided and a chi-square was conducted.
* $p < .05$ ** $p < .01$ *** $p < .001$

The mean age of those with a RSM was 54.1 years compared to 54.5 years for those with no a RSM. While those who do have other motives appear to be older than those with a RSM, the results of the *t* tests indicate that the difference is not statistically significant. Similarly, there was no statistically significant difference in ownership type between multifamily property owners with a RSM and those with other motives. The results of the *chi-square* tests indicated that the following variables were statistically significant: (a) being male ($\chi^2 = 34.125$; $p < .001$); (b) race ($\chi^2 = 10.279$; $p < .001$); (c) income level ($\chi^2 = 93.635$; $p < .001$); (d) time spent on maintenance ($\chi^2 = 50.565$; $p < .01$); (e) residence ($\chi^2 = 257.677$; $p < .001$); (f) length of ownership ($\chi^2 = 396.900$; $p < .001$); (g) units owned ($\chi^2 = 259.383$; $p < .001$); and (h) location of property ($\chi^2 = 58.294$; $p < .001$).

There was a wide difference in the distribution of those with RSM and those without. A large percentage of those with a RSM were: (a) male (81.8%); (b) White (88.9%); (c) had more than $100,000 annual income (30.6%); (d) spent 100% of their time on maintenance (21.5%); (e) did not live at the property (93.1%); (f) reported more than 10 years ownership (74.3%); (g) owned more than 30 units (32.0%); (h) and owned a property located in the Northeast (30.9%), the West (24.7%), or the South (20.5%) than those without a RSM. A larger percentage of those with no RSM reported (a) female (32.6%); (b) non-white (17.5%); (c) had annual income less than $30,000 (34.2%); (d) spent less than 25 % of their time on maintenance (64.2%); (e) did live at the property (44.5%); (f) reported owning less than 10 years (30.9%); (g) owned 2-4 units (68.1%); and (h) owned a property located in the Midwest (43.9%) compared to those with a RSM.

Logistic Regression Analysis of Retirement Savings Motive (RSM)

Table 6 presents the results of logistic regression analysis for RSM. Among the socioeconomic characteristics of owners category, the odds ratio (OR) for the following variables were found to be statistically significantly related to the likelihood of reporting a RSM: (a) gender ($OR = 1.951$; $p < .001$), (b) income ($OR = 1.113$; $p < .05$), (c) time spent on maintenance ($OR = 1.143$; $p < .01$), and (d) where the owners live ($OR = .158$; $p < .001$). Contrary to what was expected, age ($OR = 1.039$) and race ($OR = 1.069$) were not found to be statistically significant. An odds ratio measures the probability of an event occurring. An odds ratio greater than one implies an increase in the probability of that event occurring. An odds ratio that is less than one implies a reduction in the probability of that event occurring (Westergren, Karlsson, Andersson, Ohlsson, & Hallberg, 2001)

Table 6

Results of Logistic Regression Analysis for Retirement Savings Motive

Variable	Parameter estimate	*p*	Odds ratio
Socioeconomic and behavioral characteristics of owners			
Age	0.0382	0.3314	1.039
Age squared	-0.0004	0.3207	1.000

(table continues)

Variables	Parameter estimates	*p*	Odds ratio
Gender:			
(Female)			
Male	0.4644	0.0043***	1.951
Race:			
White	0.0671	0.7368	1.069
(Non-White)			
Income level:	0.1073	0.0567*	1.113
Time spent on maintenance	0.1333	0.0085**	1.143
Residence:			
Live at the property	-1.8448	0.0001***	0.158
(Not live at the property)			
Ownership/property characteristics			
Ownership type:			
Individual	0.8185	0.0002***	2.267
(Cooperates)			
Length of ownership:			
(Less than 10yrs)			
11^{+} years	-0.2059	0.2482	0.814

(table continues)

Variables	Parameter estimates	*p*	Odds ratio
Number of units owned:			
(2-4 units)			
5 -10 units	1.0756	0.0001***	2.932
11 –29 units	1.6261	0.0001***	5.084
30 + units	1.0367	0.0001***	2.820
Location of property:			
Northeast	-0.3572	0.0944+	0.700
Midwest	-0.1523	0.4739	0.859
West	-0.0870	0.7034	0.917
(South)			
Intercept	-1.9004	0.0833	
Log Likelihood	1286.486		
χ^2	383.244***		

Note. Reference categories in the multivariate analyses are presented in parentheses.
+ $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$

The results of logistic regression analysis found a statistically significant relationship between being male and the likelihood of reporting a RSM at the .0001 alpha level. As hypothesized, compared with female property owners, male property owners were 95.1% more likely to report a RSM. Statistical significance was also found for the relationship between income and the likelihood of reporting a RSM at the .05

alpha level. The odds ratio shows that as a property owner's income increased, the likelihood of reporting a RSM increased by 11.3%.

In addition, time spent on maintenance was found to be statistically significantly related to the likelihood of reporting a RSM at the .01 alpha level. As the amount of time spent on maintenance increased, so does the likelihood of reporting a RSM. While a statistically significant relationship was found between owner living at property and the likelihood of reporting a RSM at the .001 level, the findings were contrary to what was expected. Compared with those owners who did not live at the property, those living at the property were 85% less likely to report a RSM.

Moreover, several key factors among the ownership/property characteristics category appear to play a role in increasing the likelihood of reporting a RSM. Ownership type ($OR = 2.267$; $p < .01$) was found to be statistically significantly related to the likelihood of reporting a RSM. The odds ratio indicated that compared with cooperative ownership, those with individual ownership were 127% more likely to report a RSM.

The number of units owned was also found to be statistically significant: (a) ownership of 5-10 units ($OR = 2.932$; $p < .001$); (b) 11-29 units ($OR = 5.084$; $p < .001$); and (c) 30+ units ($OR = 2.820$; $p < .001$). The odds ratio reported that compared to those who owned 2-4 units, those owning 5-10 units were 193% more likely to report a RSM; those owning 11-29 units were 408% more likely to report a RSM; and those owning more than 30 units were 182% more likely to report a RSM.

Contrary to what was expected, the length of ownership ($OR = .814$; $p = 0.248$); (b) Northeast ($OR = .700$; $p = .094$); (c) Midwest ($OR = .859$; $p = 0.473$); and (d) West

($OR = .917$; $p = 0.703$) were not found to be statistically significantly related to the likelihood of reporting a RSM.

Descriptive Statistics on Returns from Real Estate Investments in the Prior Year

Table 7 presents the returns from real estate investments among those with a RSM. The number of property owners who reported they made a profit, broke even, lost money, or were not sure/other in the prior year totaled 877. The majority of property owners (53.9%) reported having a gain in the prior year from real estate investment. Only 26.5% reported a loss, 11.9% reported breaking even, and 7.9% reported they were not sure/other in the previous year.

Table 7

Returns from Real Estate Investments in the Prior Year (N = 877)

Returns from real estate investment	*N*	%
Gain	473	53.9%
Even	104	11.9%
Loss	232	26.5%
Not sure and others	68	7.8%
Total	877	100.0%

Profile of Property Owners With and Without Profit in the Prior Year

In this study, *t* tests and cross-tabulations were performed to determine differences on socioeconomic and behavioral characteristics of owners, ownership/property characteristics between those who reported a profit ($n = 473$) and those who did not ($n = 404$). Table 8 indicates that the differences in age, gender, race, annual household income, ownership type, length of ownership, number of units owned, and location of property were statistically significant different between those who reported a profit and those who did not report a profit. The results of the *t* test showed that those who did have a profit appeared to be older than those with no profit. While the mean age of those with a profit was 56.7 years, the mean age of those with no profit was 51.0 years.

Table 8

Profile of Property Owners With and Without Profit in the Prior Year

Variables	Profit ($n = 473$)		No Profit ($n = 404$)		Test statistic
	n	%	*n*	%	
Socioeconomic and behavioral characteristics of owners					
Age	56.7[a]	12.1[b]	51.0[a]	11.7[b]	$t = 7.07^{***}$
Gender:					
Male	399	84.4	319	79.0	$\chi^2 = 4.272^{*}$
Female	74	15.6	85	21.0	

(table continues)

Variables	Profit (n = 473)		No Profit (n = 404)		Test statistic
	n	%	n	%	
Race:					
White	436	92.4	340	84.6	$\chi^2 = 13.253^{***}$
Non-White	36	7.6	62	15.4	
Income level:					
Less than $30,000	42	8.9	77	19.1	
$30,000 - $49,999	89	18.8	94	23.3	$\chi^2 = 30.141^{***}$
$50,000 - $79,999	96	20.3	82	20.3	
$75,000 - $99,999	75	15.9	54	13.4	
More than $100,000	171	36.2	97	24.0	
Time on maintenance:					
Less than 25%	198	41.9	195	48.3	
Time 25% - 49%	77	16.3	61	15.1	$\chi^2 = 7.121$
Time 50% - 74%	45	9.5	40	9.9	
Time 75% - 99%	48	10.2	24	5.9	
Time 100%	105	22.2	84	20.8	
Residence:					
Live at the property	29	6.3	30	7.6	$\chi^2 = 0.513$
Not live at the Property	428	93.7	365	92.4	

(table continues)

Variables	Profit (n = 473)		No Profit (n = 404)		Test statistic
	n	%	n	%	
Ownership/property characteristics					
Ownership type:					
Individual	405	85.6	366	90.6	$\chi^2 = 5.066^{*}$
Cooperates	68	14.4	38	9.4	
Length of ownership:					
Short (less than 10yrs)	84	17.8	142	35.2	$\chi^2 = 34.445^{***}$
Long (11+ yrs)	389	82.2	262	64.9	
Number of units owned:					
2-4 units	65	14.9	103	29.2	
5-10 units	84	19.3	90	25.5	$\chi^2 = 36.540^{***}$
11-29 units	121	27.8	72	20.4	
30+ units	165	37.9	88	24.9	
Location of property:					
Northeast	86	18.2	123	30.5	
Midwest	156	32.9	115	28.5	
West	132	27.9	86	21.3	$\chi^2 = 19.166^{***}$
South	99	20.9	80	19.8	

Note. For continuous variables [a]mean, [b]median, and [c]standard deviation are provided, and a t test was conducted; for dichotomous variables [c]row and [d]column proportions are provided and a *chi-square* test was conducted.
$^{*}p < .05$ $^{**}p < .01$ $^{***}p < .001$

Chi-square tests indicated that several factors were statistically significantly different among those with a profit and those without. The results of the *Chi-square* tests found that the following factors were statistically significant: (a) male ($\chi^2 = 4.272$; $p < .05$); (b) race ($\chi^2 = 13.253$; $p < .001$); (c) income level ($\chi^2 = 30.141$; $p < .001$); (d) ownership type ($\chi^2 = 5.066$; $p < .05$); (e) length of ownership ($\chi^2 = 34.445$; $p < .001$); (f) units owned ($\chi^2 = 36.540$; $p < .001$); and (g) location of property ($\chi^2 = 19.166$; $p < .001$). However, the results of the *chi-square* tests indicated that variables such as time spent on maintenance and residence type were not significantly different between those who reported a profit and those who did not have a profit in the prior year.

There appears to be a wide difference between those with a profit and those without. A larger percentage of those with a profit were: (a) male (84.4%); (b) White (92.4%); (c) had more than $100,000 annual income (36.2%); (d) cooperative ownership (14.4%); (e) reported more than 10 years ownership (82.2%); (f) owned more than 30 units (37.9%); (g) and owned a property located in the Midwest (32.9%), the West (27.9%), or the South (20.9%) than those with no profit. On the other hand, a larger percentage of those with no profit reported being (a) female (79.0%); (b) non-white (15.4%); (c) annual income less than $30,000 (19.1%); (d) individual ownership (90.6%); (e) owning less than 10 years (35.2%); (f) owning 2-4 units (29.2%) or 5-10 units (25.5%); and (g) owning a property located in the Northeast (30.5%) compared to those property owners with a profit.

Logistic Regression Analysis of Profit in the Prior Year

Table 9 presents the results of logistic regression analysis for profit from real estate. Among the socioeconomic and behavioral characteristics of owners category, race ($OR = 1.282$; $p \leq .01$) and income level ($OR = 1.192$; $p \leq .01$) were found to be statistically significant in predicting the likelihood of reporting a profit. Compared to non-White, White were 28.2% more likely to report a profit from real estate investment. The odds ratio shows that as income level increased from one level to another the likelihood of reporting a profit increased by 19.2%. However, (a) age ($OR = .959$; $p = 0.391$); (b) gender ($OR = 1.255$; $p = 0.237$); (c) time spent on maintenance ($OR = .937$; $p = 0.204$); (d) and living at the property ($OR = 1.310$; $p = 0.369$) were not found to be statistically significant in predicting the likelihood of reporting a profit.

Among the ownership/property characteristics category, the results of logistic regression indicated that ownership of 11-29 unit ($OR = 2.262$; $p \leq .001$) and 30+ unit properties ($OR = 2.104$; $p \leq .001$) were statistically significantly associated with the likelihood of reporting a profit. Those who owned 11-29 units were 126% more likely to report a profit than those who owned 2-4 unit properties. Those who owned 30 or more units were 110% more likely to report a profit than those who owned 2-4 unit properties.

Ownership of properties located in the Northeast ($OR = .648$; $p \leq .05$) was found to be negatively associated with the likelihood of reporting a profit. Compared to owners who owned properties in the South, those who owned properties in the Northeast were 35.2% less likely to report a profit. Contrary to what was expected, (a)

individual ownership (OR = .775; p = .288), (b) ownership for 11 or more years (OR = 1.415; p = .0669), (c) ownership of 5-10 units (OR = 1.463; p =.072), (d) Midwest (OR = 1.282; p = 0.235), and (e) West (OR = 1.269; p = 0.2819) were not found to be statistically significant.

Table 9

Results of Logistic Regression Analysis for Profit in the Prior Year

Variable	Parameter estimate	p	Odds ratio
Socioeconomic and behavioral characteristics of owners			
Age	-0.0421	0.3909	0.959
Age squared	0.0007	0.0988^{+}	1.001
Gender:			
(Female)			
Male	0.2273	0.2368	1.255
Race:			
White	0.5780	0.0159**	1.282
(Non-White)			
Income level:	0.1753	0.0024**	1.192
Time spent on maintenance	-0.0648	0.2035	0.937
Residence:			
Live at the property	0.2700	0.3687	1.310
(Not live at the property)			

(table continues)

Variables	Parameter estimate	*p*	Odds ratio
Ownership/property characteristics			
Ownership type:			
Individual	-0.2548	0.2875	0.775
(Cooperatives)			
Length of ownership:			
(Less than 10yrs)			
11^{+} years	0.3472	0.0669^{+}	1.415
Number of units owned:			
(2-4 units)			
5 -10 units	0.3805	0.0715^{+}	1.463
11 -29 units	0.8163	0.0001***	2.262
30 + units	0.7437	0.0011***	2.104
Location of investment			
Northeast	-0.4346	0.0506*	0.648
Midwest	0.2487	0.2349	1.282
West	0.2385	0.2819	1.269
(South)			
Intercept	-1.4869	0.2659	
Log Likelihood	1078.594		
χ^2	131.752***		

Note. Reference categories in the multivariate analyses are presented in parentheses.
$^{+}$ $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$

CHAPTER V

DISCUSSION AND CONCLUSION

Summary

The findings of this study highlight the significant allocation of resources that multifamily property owners make in planning for their retirement and the important role access to resources plays in determining the likelihood of reporting a profit. Compared to all multifamily property owners, a higher percentage of those who purchased multifamily real estate for retirement purposes with a RSM were (a) male; (b) White; (c) had higher income levels; (d) did not live at the property; (e) owned the property for longer periods of time; (f) owned five or more units; and (g) owned property located in the West, Midwest, and South. Logistic regression analysis found that being male, income level, time spent on maintenance, individual ownership, and ownership of five or more units were significant predictors of the likelihood of reporting a retirement savings motive (RSM).

The findings in the study support the hypothesized directional effect of some of factors. As hypothesized, being male, having higher income levels, spending more time on maintenance, and being an individual owner were statistically significant and positively associated with the likelihood of a reporting a RSM. Contrary to what was expected, age, race, length of ownership, and the region of the country were not statistically significant. Moreover, contrary to what was hypothesized, living at the property was negatively associated with the likelihood of reporting a RSM.

Some of the factors that were found to influence the likelihood of reporting a RSM also played a role in the likelihood of reporting a profit in the prior year. A higher percentage of individuals with a profit in the prior year indicated that they were (a) older; (b) male; (c) White; (d) spent between 75%-100% of their time on maintenance; (e) did not live at the property; (f) owned for 11 or more years; (g) owned 11 or more units; and (h) owned properties in the Midwest, West, and South. Logistic regression analysis found that being White, higher income level, and owning 11 or more units were statistically significant in increasing the likelihood of reporting a profit. As hypothesized, the Northeast was found to be negatively associated with the likelihood of reporting a profit in the prior year. The findings support the hypothesized directional effect of being White, having higher income level, and greater number of units owned on the likelihood of reporting a profit in the prior year.

Limitations

The generalizability of this study is constrained by the following: (a) the age of the database; (b) the time referenced in the likelihood of reporting profit; (c) the reliance on a self reported measures of profit or loss; (d) the lack of follow-up questions regarding marital status of respondents; and (e) data limitation on regional economic differences. Since the data was collected, there has been a dramatic rise in the price of real estate in many areas. This rise has motivated many individuals to invest in real estate (National Association of Realtors, 2005). The results of this study do not reflect this new wave of investors or capture their likelihood of profit. In light of this limitation, the source was utilized because it is the most recent national study on

multifamily properties and owners. Additional research should be undertaken to capture the new wave of investors and their likelihood of reporting a profit.

The time referenced with respect to profit is also a limitation of the study. To determine profitability, respondents were simply asked if their property made a profit last year. No additional questions were asked with respect to whether the property was profitable in the previous five to ten years. This limits the generalizability of the likelihood of reporting a profit to the previous year. Additional research should be undertaken to examine difference over a longer period of time.

Another limitation of the study is its use of self reported measures of profitability. While it could be assumed that investors have an incentive to know whether or not their investment is making money, there is no way to now for sure. Respondents may have falsely reported they made a profit to save face or appear to be good investors.

The study is further limited by the lack of follow-up questions regarding respondents' marital status. While respondents were queried about their gender, there were no follow-up questions regarding their marital status. This lack of information limits the study's ability to identify true male and female differences by controlling for marital status. It is possible that the gender differences found in the study do not reflect single male and female difference but married male and single female differences.

Finally, data limitations with respect to regional economic activity hinder the generalizability of observed regional differences. Since no regional economic information was collected, it is difficult to determine the role of regional variations in economic activity that play in the performance of multifamily properties. It is possible

that observed regional differences in the likelihood of reporting a profit are a result of regional economic activity at the time of the survey. It is suggested that additional research be undertaken to examine the effect of regional economic activity on the probability of reporting a profit among property owners who purchase multifamily real estate for retirement purposes.

Conclusions and Implications

It appears that persons who invest in multifamily real estate for retirement purposes invest a significant amount of time, energy and resources. Property owners with a retirement savings motive were more likely to report being male, higher income levels, spending more time on maintenance, not living at the property, being individual owners, and owning five or more units. This significant allocation of resources implies that those with a RSM might not be typical investors. Almost any individual can start investing in stocks with as little as $100, those who wish to invest in multifamily properties must accumulate significantly more (Sharebuilder, 2006). Not only must they earn enough to amass the 20%+ down payment required to purchase 5+ unit properties, they must also earn enough to pay two mortgages, and have enough left over for unexpected costs. This amount can be significant, given the price of multifamily properties and the cost of some repairs.

More importantly, even in light of the significant allocation of resources, only a small number of factors were found to significantly correlate with the likelihood of reporting a profit among those with a RSM. Specifically, income and the number of units owned were both found to statistically significantly increase the likelihood of

having a RSM and reporting a profit. This is not surprising given that individuals with higher income levels are more likely to accumulate the down payment.

Financial planners, investors, lenders, and government officials are encouraged to take note of the findings of this study. It is suggested that financial planners should conduct an in-depth analysis of a client's social and economic resources before suggesting they directly own multifamily properties. Financial planners and advisors should pay specific attention to the reasons for the purchase, the size of the property, client's availability to manage and maintain the property, human capital, and access to financial resources. Unless clients have adequate resources, it is suggested that they redirect clients to more passive investment vehicles. Investors are also encouraged to thoroughly evaluate their socioeconomic resources and evaluate their ability to get the best loan terms and establish emergency reserves.

It is further suggested that the lenders extend their practice of qualifying the borrower and the property by requiring the development of a business plan for multifamily properties prior to funding. By requiring a business plan, lenders would be better able to assess the motives, skills, and resources of the borrower. In addition, it is suggested that lenders and government agencies be cautious of liberal lending practices that allow high loan to value ratios, low reserve requirements, and rely only on the borrower's credit report.

This study provides some insight into who purchase multifamily real estate for retirement purposes and the factors that may influence their likelihood of reporting a profit. Those seeking to invest in multifamily real estate are urged to thoroughly analyze their finances, time, and willingness to do manage and maintain the property before

investing. In addition, individual investors, financial planners, lenders and researchers are encouraged to utilize the information in this study to expand, develop, and refine models that measure the quality of a financial deal (i.e. the probability of making a profit and/or risk of default).

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